CLAIMS

1. A system for use with a subject, the system comprising:

an implant configured for placement along a native heart valve annulus of a native heart valve of the subject, the implant comprising a body portion comprising flexible material, the body portion having a longitudinal axis that runs along a length of the body portion; and

an annulus-marking device comprising:

an expandable radiopaque braided mesh that is expandable from a collapsed state to a frustoconical shape; and

two or more pull wires coupled to the expandable braided mesh, the two or more pull wires being configured to be pulled in order to transition the braided mesh from the frustoconical shape to a shape in which the mesh assumes (1) a sloped upper portion configured for positioning within an atrium of a heart of the subject, (2) a bulging ledge portion configured for positioning above the heart valve, (3) a narrow portion for positioning within the heart valve, and (4) a trumpet portion configured for expanding within a ventricle of the heart of the subject.

2. The system according to claim 1, wherein the annulus-marking device is removable from the subject following implantation of the implant.

3. The system according to any one of claims 1-2, wherein the body portion comprises a plurality of radiopaque markings at respective sites along the body portion.

4. The system according to any one of claims 1-3, wherein the bulging portion has a greater diameter than the other portions of the annulus-marking device.

5. The system according to any one of claims 1-4, wherein the sloped upper portion is configured such that the implant is slidable along toward the annulus.

6. A system for use with a subject, the system comprising:

an implant configured for placement along a native heart valve annulus of a native heart valve of the subject, the implant comprising a body portion comprising flexible material, the body portion having a longitudinal axis that runs along a length of the body portion; and

an annulus-marking device comprising:

an expandable radiopaque braided mesh that is expandable from a collapsed state to an expanded state, in the expanded state, the mesh assumes (1) a sloped upper portion configured for positioning within an atrium of a heart of the subject, and (2) an asymmetrical portion for positioning within the heart valve.

7. The system according to claim 6, wherein the annulus-marking device is removable from the subject following implantation of the implant.

8. The system according to any one of claims 6-7, wherein the body portion comprises a plurality of radiopaque markings at respective sites along the body portion.

9. The system according to any one of claims 6-8, wherein the sloped upper portion is configured such that the implant is slidable along the sloped upper portion toward the annulus.

10. The system according to any one of claims 6-9, further comprising a stabilizing rod and a tissue anchor coupled to an end of the stabilizing rod and configured to be reversibly coupled to tissue of the heart of the subject, wherein the annulus-marking device is slidably coupled to the stabilizing rod, and wherein the stabilizing rod is configured to stabilize and guide positioning of the annulus-marking device.

11. The system according to any one of claims 6-10, wherein in the expanded state, the mesh assumes a trumpet portion configured for expanding within a ventricle of the heart of the subject.

12. The system according to claim 11, wherein the trumpet portion has a greater diameter than the other portions of the annulus-marking device.

13. The system according to any one of claims 6-12, further comprising a plurality of expandable snares coupled to a distal end portion of the expandable radiopaque braided mesh, the plurality of expandable radiopaque snares being configured to ensnare one or more native leaflets of the native valve of the subject.

14. The system according to claim 13, wherein the plurality of expandable snares comprises a rigid material.

15. The system according to claim 13, wherein the plurality of expandable snares comprises a flexible material.

16. The system according to claim 13, wherein the plurality of expandable snares comprises a radiopaque material.

17. The system according to claim 13, wherein the plurality of expandable snares extend distally from a distal end of the expandable radiopaque braided mesh and then curve proximally.

18. The system according to any one of claims 6-17, further comprising a plurality of expandable radiopaque elements which are coupled to a distal end portion of the expandable radiopaque braided mesh and configured to expand radially such that the plurality of expandable elements provides an indication as to a location of the native heart valve annulus of the native heart valve of the subject.

19. The system according to claim 18, wherein the plurality of radiopaque expandable elements collectively form the annulus-marking device into a generally spherical shape.

20. The system according to claim 18, wherein the plurality of expandable radiopaque elements comprise a plurality of woven radiopaque fibers assuming a mesh.

21. The system according to claim 18, wherein the plurality of expandable radiopaque elements comprise a plurality of curved wires.

22. The system according to any one of claims 6-21, further comprising an inflatable annular element coupled to a distal end portion of the expandable radiopaque braided mesh, the inflatable annular element being configured to position the expandable radiopaque braided mesh within the native valve of the subject.

23. The system according to claim 22, wherein the inflatable annular element comprises a radiopaque material.

24. The system according to claim 22, wherein the inflatable annular element comprises a prosthetic valve.

25. The system according to claim 22, wherein the expandable radiopaque braided mesh is positionable within the native heart valve, and wherein the inflatable annular element is positionable below the native heart valve.